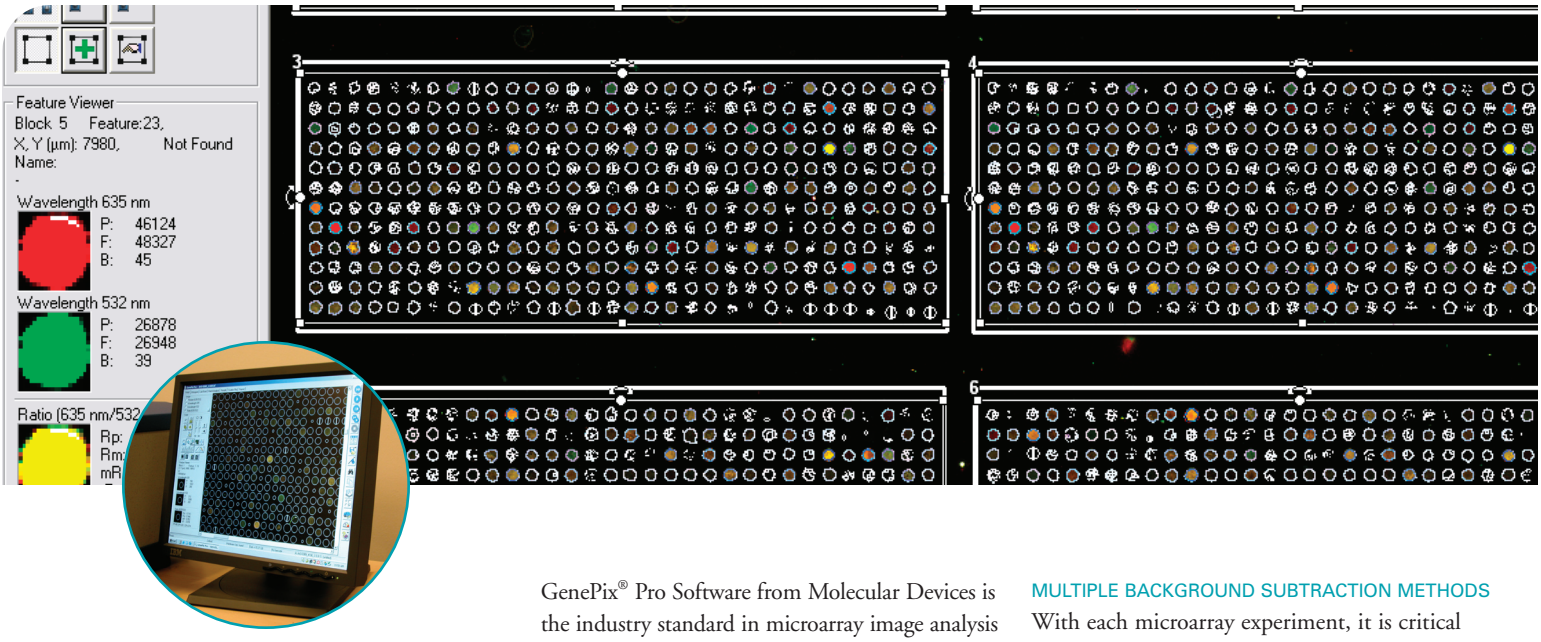
Molecular Devices

GenePix Pro 7 Software

THE INDUSTRY STANDARD IN MICROARRAY IMAGE ANALYSIS



- MULTIPLEXED IMAGE ACUISITION
- POWERFUL AUTOMATED SPOT-FINDING ALGORITHMS
- WALK-AWAY BATCH ANALYSIS
- AUTOMATED QUALITY CONTROL FLAGGING
- IMPORT/EXPORT OF INDUSTRY-STANDARD FILE FORMATS
- FULL CONTROL OF GENEPIX SL50 SLIDE LOADER
- INTEGRATION WITH GENEPIX SCANNERS AND ACUITY INFORMATICS SOFTWARE

GenePix® Pro Software from Molecular Devices is the industry standard in microarray image analysis because of its unique combination of imaging and analysis tools, visualizations, automation capabilities, performance and ease-of-use. With multiplexed image acquisition and automation features of GenePix Pro 7 Software, the best just got better.

MULTIPLEXED IMAGE ACQUISITION

With your predefined settings you do not need to manually scan each individual array anymore. Select multiple scan areas on one microarray and set your scan parameters for independent scans and click on Data Scan All. A scanner controlled by GenePix Pro 7 Software will do the image acquisition and save the images to your desired location.

POWERFUL SPOT-FINDING ALGORITHMS

Manual gridding is no longer necessary. Analyze any microarray TIFF image from any scanner, including hexagonally packed arrays, using a set of proprietary powerful spot-finding algorithms in GenePix Pro Software. Global alignment algorithms determine the translation, rotation and skew of blocks of features. In addition to finding circular or square features, GenePix Pro Software has an edge-detection option for segmenting irregularly shaped features from background.

MULTIPLE BACKGROUND SUBTRACTION METHODS

With each microarray experiment, it is critical to calculate the best-possible numerical representation of biological changes on the array, which is often hampered by substandard array quality. GenePix Pro 7 Software allows users to choose between several background subtraction methods, to best fit existing requirements. Choose from local, global, morphological or negative control methods, all with user-selectable parameters. Or, where appropriate, choose to have no background subtraction at all.

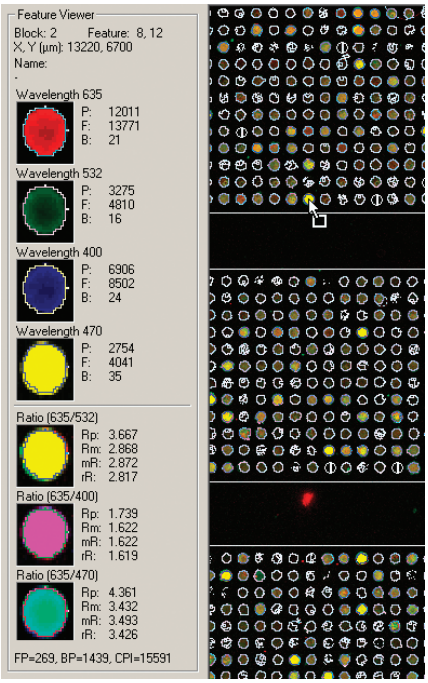
AUTOMATED FEATURE FLAGGING

The user-defined Flag Features interface allows users to design and save multiple-parameter Boolean queries for automated feature flagging. Queries can easily be shared between collaborators to help standardize quality control practices within a group of users.

WALK-AWAY BATCH ANALYSIS

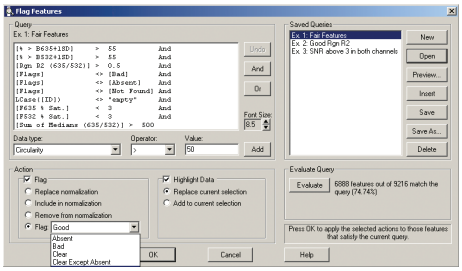
GenePix Pro 7 Software simplifies batch analysis. Simply load a group of TIFF images to the Batch Analysis Tab, assign layout files and press Start. GenePix Pro 7 Software will automatically run spot-finding algorithms, extract numerical values, flag features and save a results file for each image. With the Browse Tool, users can quickly review results of the completed batch.

Feature Viewer



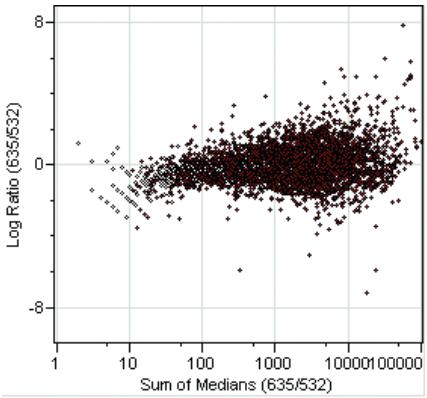
The Feature Viewer gives instant access to a large amount of individual feature data, without requiring complete analysis of the entire image.

Flag Features dialog



The Flag Features dialog box allows users to construct fully general Boolean-quality control queries.

Scatter Plot interface



Use the Scatter Plot to plot any two Results columns against each other. In this case, Log ratio is plotted against Sum of Medians (on a log scale) to assess the intensity-dependence of ratio data.

DATA-CENTRIC INTERFACE

GenePix Pro 7 Software is a transparent interface so users clearly see and control each step of image analysis. The Image Tab allows users to view up to four wavelength images and three two-wavelength ratio images, with a variety of color palettes. The Results Tab displays multiple analysis results with up to 50 metrics for each feature, in a straightforward, sortable spreadsheet format. Users can select metrics to plot as either scatter plots or histograms on the Scatter Plot Tab. All three tabs are linked to each other, so that selections on one are shown throughout.

MEASURING TOOLS

Use the unique measuring tools in GenePix Pro 7 Software for quality control and quantitative assay development: measure intensities along lines, polylines and in user-defined regions.

NORMALIZATION

Correct unbalanced dye signals within GenePix Pro 7 Software, using ratio- or wavelength-based normalization methods, based either on all features or any subset of features. For more advanced normalization methods, such as Lowess, save analysis results directly to Molecular Devices Acuity® Microarray Informatics Software.

REPORTS AND SCRIPTING

The Reports Tab of GenePix Pro 7 Software is stocked with ready-to-use analysis reports, including array quality control, identification of interesting features and more. Each report is editable, and example reports provide building blocks for users to create and customize their own scripts for displaying images, tables and graphs, and even controlling scanner automation.

SHARE YOUR DATA

GenePix Results (GPR) and GenePix Array List (GAL) files are the industry standard formats. Along with MAGE-ML export to satisfy journal submission requirements, GenePix Pro 7 Software users can easily share and compare data with colleagues and collaborators.

HARDWARE INTEGRATION

When used with GenePix Scanners, GenePix Pro 7 Software acts as both acquisition and analysis software, eliminating the need to transfer data between two software packages. This close integration also allows real-time monitoring of hardware performance to ensure proper hardware function during data collection and automated photomultiplier (PMT) adjustment. GenePix Pro 7 Software is fully compatible with all GenePix 4000B, 4100A, 4200, 4300, 4400, and the SL50 Slide Loader. GenePix Pro 7 Software does not support the 4000A and the 4200AL scanners.

INFORMATICS INTEGRATION

GenePix Pro 7 Software and Acuity Microarray Informatics Software allow users to perform acquisition, first-pass analysis and advanced analysis all within one environment. GenePix Pro Software results are easily saved directly into the Acuity Software database.

TECHNICAL SPECIFICATIONS

Recommended Computer

- IBM-compatible computer with an Intel Quad Core processor 1.8 GHz or faster
- Microsoft Windows XP or Vista 64-bit edition operating system
- 8 GB RAM or more
- Dedicated Video Card 256MB or greater
- 250 GB hard drive (for image storage)
- Optical Drive with DVD and CD read and write capabilities (DVD+/-RW)
- At least two free USB port or network connections (one for the USB software protection key*, and one for the scanner)
- Internet access (for faster version updates and troubleshooting)
- 1280 x 1024 display system with 16M colors
- Microsoft Internet Explorer 7

ORDERING INFORMATION

Visit our web site for additional information and to download a demonstration version of GenePix Pro 7 Software.

SALES OFFICES

- North America +1-800-635-5577
- UK +44-118-944-8000
- Germany +49-89-9605-880

Check our web site for a current listing of our worldwide distributors.
www.moleculardevices.com

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